

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Currently Amended) A semiconductor device comprising a thin film transistor, said thin film transistor comprising:

a crystalline semiconductor film comprising silicon, comprising:

a source region and a drain region; and

a channel formation region provided between said source region and said drain region; and

a gate electrode,

wherein said channel formation region comprises silicon and an element selected from group IV elements other than silicon, and

wherein said channel formation region comprises a plurality of crystal grains extending in a same direction.

3. (Currently Amended) A semiconductor device comprising a thin film transistor, said thin film transistor comprising:

a crystalline semiconductor film comprising silicon, comprising:

a source region and a drain region; and

a channel formation region provided between said source region and said drain region; and

a gate electrode,

wherein said channel formation region comprises silicon and an element selected from group IV elements other than silicon, and

wherein said source region, said drain region and said channel formation region are arranged in parallel with a plane,
wherein said channel formation region comprises a plurality of crystal grains, and
wherein said plurality of crystal grains are in parallel with said plane.

4. (Currently Amended) A semiconductor device comprising a thin film transistor, said thin film transistor comprising:
a crystalline semiconductor film comprising silicon, comprising:
a source region and a drain region; and
a channel formation region provided between said source region and said drain region; and
a gate electrode,
wherein said channel formation region comprises silicon and an element selected from group IV elements other than silicon, and
wherein said source region, said drain region and said channel formation region are arranged in parallel with a plane,
wherein said channel formation region comprises a plurality of crystal grains provided in said crystalline semiconductor,
wherein said plurality of crystal grains are in parallel with said plane, and
wherein concentration of said element in said channel formation region is 5×10^{19} atoms/cm³ or less.

5. (Currently Amended) A semiconductor device comprising a thin film transistor, said thin film transistor comprising:
a crystalline semiconductor film comprising silicon, comprising:
a source region and a drain region; and
a channel formation region provided between said source region and said drain region; and

a gate electrode,

wherein said channel formation region comprises silicon and an element selected from group IV elements other than silicon,

wherein said channel formation region comprises a plurality of crystal grains extending in a direction connecting said source region and said drain region, and

wherein concentration of said element in said channel formation region is 5×10^{19} atoms/cm³ or less.

6. (Currently Amended) A semiconductor device comprising a thin film transistor, said thin film transistor comprising:

a crystalline semiconductor film comprising silicon, comprising:

a source region and a drain region; and

a channel formation region provided between said source region and said drain region; and

a gate electrode,

wherein said channel formation region comprises silicon and an element selected from group IV elements other than silicon,

wherein said channel formation region comprises a plurality of crystal grains extending in a same direction,

wherein an intersecting angle between said same direction and a direction connecting said source region and said drain region is adjusted in order to control resistance against movement of carriers in said channel formation region, and

wherein concentration of said element in said channel formation region is 5×10^{19} atoms/cm³ or less.

7. (Currently Amended) A semiconductor device comprising a thin film transistor, said thin film transistor comprising:

a crystalline semiconductor film comprising silicon, comprising:

a source region and a drain region; and
a channel formation region provided between said source region and said drain region; and
a gate electrode,
wherein said channel formation region comprises silicon and an element selected from group IV elements other than silicon,
wherein said channel formation region comprises a plurality of crystal grains extending in a same direction,
wherein an intersecting angle between said same direction and a direction connecting said source region and said drain region is adjusted in order to control a rate at which carriers traverse grain boundaries in said channel formation region, and
wherein concentration of said element in said channel formation region is 5×10^{19} atoms/cm³ or less.

8. (Previously Presented) A device according to claim 2 wherein said element is selected from the group consisting of Sn and Pb.

9. (Previously Presented) A device according to claim 2 wherein said semiconductor device is selected from the group consisting of an active matrix type display device and an image sensor.

10. (Previously Presented) A device according to claim 3 wherein said element is selected from the group consisting of Sn and Pb.

11. (Previously Presented) A device according to claim 3 wherein said semiconductor device is selected from the group consisting of an active matrix type display device and an image sensor.

12. (Previously Presented) A device according to claim 4 wherein said element is selected from the group consisting of Sn and Pb.

13. (Previously Presented) A device according to claim 4 wherein said concentration of said element is measured by Secondary Ion Mass Spectroscopy.

14. (Previously Presented) A device according to claim 4 wherein said semiconductor device is selected from the group consisting of an active matrix type display device and an image sensor.

15. (Previously Presented) A device according to claim 5 wherein said element is selected from the group consisting of Sn and Pb.

16. (Previously Presented) A device according to claim 5 wherein said concentration of said element is measured by Secondary Ion Mass Spectroscopy.

17. (Previously Presented) A device according to claim 5 wherein said semiconductor device is selected from the group consisting of an active matrix type display device and an image sensor.

18. (Previously Presented) A device according to claim 6 wherein said element is selected from the group consisting of Sn and Pb.

19. (Previously Presented) A device according to claim 6 wherein said concentration of said element is measured by Secondary Ion Mass Spectroscopy.

20. (Previously Presented) A device according to claim 6 wherein said semiconductor device is selected from the group consisting of an active matrix type display device and an image sensor.

21. (Previously Presented) A device according to claim 7 wherein said element is selected from the group consisting of Sn and Pb.

22. (Previously Presented) A device according to claim 7 wherein said concentration of said element is measured by Secondary Ion Mass Spectroscopy.

23. (Previously Presented) A device according to claim 7 wherein said semiconductor device is selected from the group consisting of an active matrix type display device and an image sensor.